

What is Killing Our Bats?

White Nose Syndrome

Something is killing hundreds of thousands of insect eating bats in the eastern U.S. as they hibernate in caves and mines. Bats are losing their fat reserves long before the winter is over and dying of starvation.

The cause is unknown, but the affliction has been given the name “**White Nose Syndrome**” (WNS) because of the telltale white fungus growing on the noses of infected bats.



Photo: Wil Orndorff



The *Geomyces Destructans* Fungus

A member of the group *Geomyces*, these fungi are commonly found in association with soil and are capable of growing and reproducing at cave temperatures, around 35-50°F. This fungus is a newly described species of *Geomyces* that has been named *G. destructans* (Gargas and others, 2009). This fungus had infected the skin of 90 percent of the bats analyzed from all the states affected by WNS (Blehert and others, 2009)

Hibernating bats drop their metabolism and temperatures to within a few degrees of cave temperature, ideal for growth of *Geomyces destructans*. Scientists are currently working to determine if the fungal infection is the sole cause of WNS-associated bat mortality.

Bats Are Dying

Mortality rates of 70-100% have been documented in the first year in many hibernacula found to have WNS. Populations continued to decline in successive years.

Bats are adapted to high rates of survival and produce few offspring. Most of the WNS-affected bat species are long-lived (10-20 years) and have a single pup per year. Subsequently it is unlikely that species of bats affected by WNS will recover quickly.

The Spreading Infection Bats with White Nose Syndrome have been found from Vermont to Virginia

What is happening in Virginia

WNS was discovered Feb. 25, 2009 in Bath County. Additional WNS sites have been found in Bland, Giles, Rockingham and Smyth counties. To date, bat weights and wing index scores appear to be healthy with a very low mortality rate.

The Virginia WNS team

State and federal agencies are working together, gathering data on the cave bat populations and monitoring the spread of WNS in our state. Caving organizations are helping the government agencies with management plans.

WNS and Endangered Bat Species in Virginia

- Within range of Virginia Big-eared bat habitat
- Within 20 km of a Gray Bat cave
- Found in one Indiana bat hibernacula so far

Management Plans for WNS in Virginia

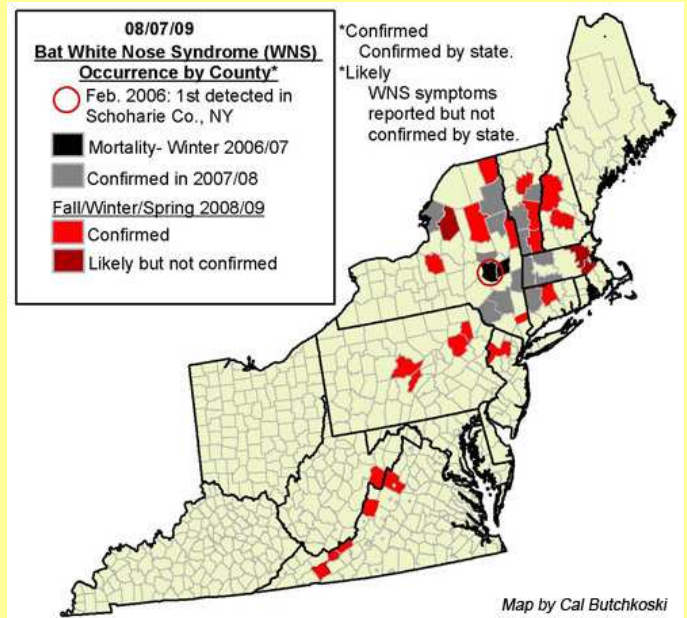
Monitor bats and cave habitats for spread of WNS throughout state

- Monitor Gray Bat populations for appearance of WNS and for interaction with other bats from WNS positive sites
- Bats will be banded to track movement of bats from WNS positive areas and to track the progression of the disease in individual bats
- WNS positive bat populations will be monitored to document progression of disease through biometric assessments including wing index scores

The Virginia WNS team will provide field support to the national scientific community



Indiana Bats - no WNS visible



Map by Cal Butchkoski

WNS doesn't only affect bats — it impacts our whole ecosystem.

Bats Matter! Bats are an essential, beneficial part of the ecosystem. Consuming over half their body weight in insects each night, bats reduce the need for insecticides and are the major predator of night-flying insects. *Bats in the U.S. eat thousands of tons of insects nightly.* Decimation of bat populations will cause a substantial ecological ripple effect, with far-reaching consequences.

Distribution of WNS-affected counties and known bat hibernacula

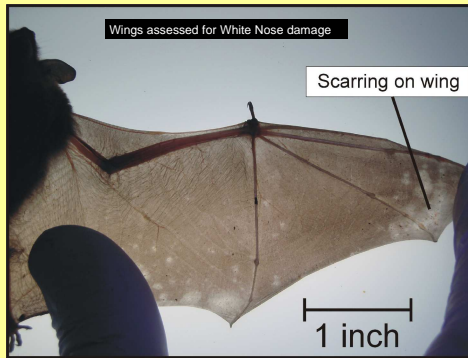
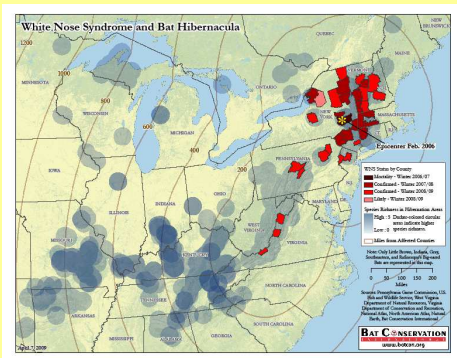


Photo: Joe Zakaite

Information on this poster from the USGS fact sheet “Investigating White-Nose Syndrome in Bats” and the National Speleological Society WNS Information Brochure. For more information on WNS see www.caves.org/wns

Poster by Carol Zakaite, DCR Karst Education Coordinator, August 24, 2009

You are asked to honor all cave closures and advisories for private and government land, and follow strict cleaning and decontamination procedures for caving clothing and equipment. Three of the five WNS positive caves in Virginia are popular recreational caves